REMARKS

Claims 26, 39, and 48 have been amended in order to more clearly describe Applicant's invention. In particular, each of these claims has been amended to recite that the insulating panel has a haze value of about 50% or more. Support for this amendment can be found throughout the present specification and claims as originally filed, including, for example, paragraph [0041] and paragraphs [0042]-[0050]. No new matter has been added. In addition, claims 37-38, 44-47, and 53-62, which were withdrawn in response to a restriction requirement, have been cancelled without prejudice to filing the subject matter of these claims in one or more subsequent applications or to reintroduction in the present application. Thus, claims 1-9, 11-23, 25-36, 39-43, 48-52, and 63-76 are pending.

Applicants note that both the Office Action Summary sheet and the Office Action itself indicate that two additional claims (77-78) are also pending. Applicant believes this to be a typographical error and have responded to the Office Action accordingly.

Rejection of Claims under 35 U.S.C. § 103

Claims 1-9, 11-23, and 25

The Examiner has rejected the above-identified claims under 35 U.S.C. § 103(a) as being unpatentable over DE 29917402 (DE '402) in view of either WO 98/07780 or the article "Glazings with Granular Aerogels" by Dengler et al. (the Dengler article).

In paragraph 6 of the Office Action, the Examiner states that DE '402 teaches a glazing comprising a first and second external wall defining a cavity wherein an inner wall (one of the interior ribs between the outer walls) extends into the cavity, as in independent claim 1. Regarding independent claim 12, the Examiner states that the two end walls that connect the outer sheets can be considered the support members between the outer walls, as shown Figures 1 and 2. The Examiner also states that DE '402 discloses an aerogel insulation material in the cavity. However, the Examiner states that DE '402 fails to specifically disclose the aerogels as being hydrophobic.

For this reason, the Examiner relies on the Dengler article, which the Examiner states teaches that it is known to use these second generation hydrophobic aerogels in glazings for the purpose of providing an insulating affect. The Examiner also relies on WO 98/07780, which the Examiner also states teaches either hydrophilic or hydrophobic aerogels are known insulative materials. The Examiner therefore concludes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to include hydrophobic aerogels in the glazing of DE '402, motivated by the fact that the secondary references teach either is known to be used for insulating affects in glazings and DE '402 discloses them used in general for the same purpose.

With regards to the haze value being about 50% or more in claims 1 and 12 (75% or more in claims 11 and 25), the Examiner states that one would be motivated to provide whatever haze value is desired for a particular application motivated by the fact that one would desire sun screening from these glazing units. Regarding claims 2-5, 7-9, 13-19, and 21-23, the Examiner states that, for claims 2, 3, and 13-17, the structure in DE '402 appears to be unitary, for claims 4, 5, 18, and 19, polycarbonate is disclosed in DE '402, and, for claims 7-9 and 21-23, WO 98/07780 shows the particular aerogel materials.

Applicants respectfully disagree. Regarding claims 1 and 12, as amended, each of these claims recites, in part, a translucent glazing panel comprising a thermoplastic panel and hydrophobic aerogel particles. The translucent glazing panel has a haze value of about 50% or more.

By comparison, DE '402 relates to a double-pane insulating glass with an integral aerogel-filled, rib-reinforced double or multiple sandwich panel. However, as noted by the Examiner, there is no disclosure, teaching, or suggestion of the use of hydrophobic aerogel particles. Furthermore, there is no teaching or suggestion of a translucent panel having a haze value of 50% or more.

The Examiner therefore relies on the Dengler article as well as WO 98/07780, stating that both of these reference shows that hydrophobic aerogels can be used in glazing applications. However, while each of these references generally discuss hydrophobic aerogels, there is no disclosure, teaching, or suggestion in either of these references of a translucent panel having a haze value of 50% or more, as recited in the present claims. Thus, neither reference can cure the deficiency of DE '402.

Furthermore, regarding the haze value, the Examiner states that one having ordinary skill in the art would be motivated to provide whatever haze value is desired for a particular application since one would desire sun screening from these glazing units. However, the Examiner has not provided any evidence from any of the references that would teach or suggest that such an outcome may be desirable. In addition, the Examiner has also not provided any teaching or suggestion from any of the references, either alone or in combination, that would enable one having ordinary skill in the art to actually attain such a result. DE '402, the Dengler article, and WO 98/07780 do not even discuss haze, let alone provide any direction to suggest how haze values of 50% or more can be achieved. By comparison, the present application does discuss haze and does teach how haze values greater than or equal to 50% can be attained (see, for example, paragraph [0041] and Example 2).

Therefore, Applicants believe that claims 1 and 12 are patentable over DE '402 in view of either the Dengler article or WO 98/07780 since none of these references, either alone or in combination, disclose, teach, or suggest a panel comprising hydrophobic aerogel particles and also having a haze value of about 50% or more. Claims 2-9 and 11, which depend directly or indirectly from claim 1, and claims 13-23 and 25, which depend directly or indirectly from claim 12, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over this combination of references.

Applicants therefore believe that claims 1-9, 11-23, and 25 are patentable over the combination of cited references and respectfully request that this rejection be withdrawn.

Claims 26-36, 39-43, 48-52, and 63-76

The Examiner has rejected the above-identified claims under 35 U.S.C. § 103(a) as being unpatentable over DE 29917402 (DE '402) in view of either WO 98/07780 or the article

"Glazings with Granular Aerogel" by Dengler et al. (the Dengler article), as applied to claims 1-9, 11-23, and 25 above, and further in view of EP 0742324.

In paragraph 7 of the Office Action, the Examiner states that the primary reference teaches the invention substantially as recited, except for the placing of the structure of claims 1 and 12 between two U-shaped exterior plates to form a glazing unit, as in independent claims 26, 39, and 48. The Examiner further states that, while DE '402 does show placing the structure as indicated between two flat plates to form a composite glazing, this reference fails to specifically disclose the exterior plates as being U-shaped.

For this reason, the Examiner relies on EP '324, which the Examiner states discloses it is known to place an interior insulating structure between two U-shaped plates in order to form a composite insulating glazing therefrom. The Examiner therefore concludes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to place the structure of the combination of primary references between two U-shaped plates, as taught by EP '324, motivated by the fact that DE '402 discloses it is known to place this structure between two exterior plates in order to form a composite glazing unit and EP '324 discloses that external U-shaped plates are known to be used for this purpose.

Applicants respectfully disagree. Regarding claims 26, 39, and 48, each of these claims recite, in part, an insulated glazing system comprising a first U-shaped element and a second U-shaped element being disposed to define a cavity therebetween, and an insulating panel disposed within the cavity, wherein the insulated glazing system further comprises hydrophobic aerogel particles disposed within the insulating panel and wherein the insulating panel has a haze value of about 50% or more.

By comparison, and as discussed in more detail above, Applicants do not believe that DE '402, either alone or in combination with either the Dengler article or WO 98/07780, disclose, teach, or suggest a panel comprising hydrophobic aerogel particles and also having a haze value of about 50% or more. In fact, DE '402, the Dengler article, and WO 98/07780 do not even discuss haze values, and certainly do not provide any direction to suggest how haze values greater than 50% can be achieved.

Furthermore, EP '324 cannot cure the deficiencies of these combinations of references. While EP '324 generally describes a light-transmitting portion of a wall structure, such as a window or facade cladding, consisting of two rows of U-shaped glass sections, wherein the cavities formed by these sections are filled with thermal insulation, Applicants do not believe that there is any disclosure, teaching, or suggestion of the use of hydrophobic aerogels. Glass capillaries, honeycomb, and parallel tubes are described. In addition, Applicants also do not believe that there is any disclosure, teaching, or suggestion that the light-transmitting portion has a haze value of 50% or more. Thus, Applicants believe that EP '324 cannot cure the deficiencies of the combination of references cited by the Examiner.

Furthermore, while the cavities formed from the U-shaped sections shown of EP '324 are filled with thermal insulation, there does not appear to be any teaching or suggestion of how these sections can be used in combination with a second, separate insulation panel. Only filler materials are shown. By comparison, such a teaching is provided in the present application, including, for example, paragraph [0042]-[0050], as well as the figures.

Therefore, Applicants believe that claims 26, 39, and 48 are patentable over DE '402 in view of either the Dengler article or WO 98/07780, and further in view of EP '324 since none of these references, either alone or in combination, disclose, teach, or suggest an insulative glazing system comprising U-shaped shaped elements and an insulating panel, wherein the insulative glazing system comprises hydrophobic aerogel particles and the insulative panel has a haze value of about 50% or more. Claims 27-36, which depend directly or indirectly from claim 26, claims 40-43 and 63, which depend directly or indirectly from claim 39, and claims 49-52 and 64-76, which depend directly or indirectly from claim 48, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over this combination of references.

Applicants therefore believe that claims 26-36, 39-43, 48-52, and 63-76 are patentable over the combination of cited references and respectfully request that this rejection be withdrawn.

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Conclusion

In view of the foregoing remarks, Applicants believe that this application is in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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